



SHEET 1 OF 27

INFORMATION DISCLOSURE
CITATION IN AN
APPLICATION
(PTO-1449)ATTY. DOCKET NO.
008063 USA MTCG/PINTGRSERIAL NO.
10/812,480APPLICANT
Deenesh PADHI et al.FILING DATE
March 30, 2004GROUP
2823

U.S. PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
dm	5,674,787	10/07/97	Zhao et al.			01/16/96
	6,143,646	11/07/00	Wetzel			06/03/97
	6,204,165 B1	03/20/01	Ghoshal			06/24/99
	2001/0030366 A1	10/18/01	Nakano et al.			03/07/01
	6,455,937 B1	09/24/02	Cunningham			03/17/99
	6,479,902 B1	11/12/02	Lopatin et al.			06/29/00
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EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
dm	8-23166	01/23/96	Japan			X	
dm	9-246547	09/19/97	Japan			X	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

dm	Itabashi, Takeyuki, Hiroshi Nakano, and Haruo Akahoshi. June 2002. "Electroless Deposited CoWB for Copper Diffusion Barrier Metal." <i>IEEE International Interconnect Technology Conference</i> , pp. 285-287.
dm	Cunningham, James A. 2003. "Using Electrochemistry to Improve Copper Interconnects." < http://www.e-insite.net/semiconductor/index.asp?layout=article&articleid=CA47465 >

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dmDATE CONSIDERED
1/25/2005

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SHEET 2 OF 27

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				APPLICANT Deenesh PADHI et al.			
				FILING DATE March 30, 2004		GROUP 2823	
U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	3,205,485	09/07/65	Noltingk			10/21/60	
	3,229,198	01/11/66	Libby			09/28/62	
	3,767,900	10/23/73	Chao et al.			06/23/71	
	3,920,965	11/18/75	Sohrwardy			03/04/74	
	4,000,458	12/28/76	Miller et al.			08/21/75	
	4,207,520	06/10/80	Flora et al.			04/06/78	
	4,209,744	06/24/80	Gerasimov et al.			03/27/78	
	4,302,721	11/24/81	Urbanek et al.			05/15/79	
	4,368,510	01/11/83	Anderson			10/20/80	
	4,609,870	09/02/86	Lale et al.			09/13/84	
	4,616,308	10/07/86	Morshedi et al.			12/02/85	
	4,663,703	05/05/87	Axelby et al.			10/02/85	
	4,698,766	10/06/87	Entwistle et al.			05/17/85	
	4,750,141	06/07/88	Judell et al.			11/26/85	
	4,755,753	07/05/88	Chern			07/23/86	
	4,757,259	07/12/88	Charpentier			11/05/86	
	4,796,194	01/03/89	Atherton			08/20/86	
	4,901,218	02/13/90	Cornwell			03/04/88	
	4,938,600	07/03/90	Into			02/09/89	
	4,967,381	10/30/90	Lane et al.			07/06/89	
	5,089,970	02/18/92	Lee et al.			10/05/89	
	5,108,570	04/28/92	Wang			03/30/90	
	5,208,765	05/04/93	Turnbull			07/20/90	
	5,220,517	06/15/93	Sierk et al.			08/31/90	
	5,226,118	07/06/93	Baker et al.			01/29/91	
	5,231,585	07/27/93	Kobayashi et al.			06/20/90	
5,236,868	08/17/93	Nulman			04/20/90		
5,260,868	11/09/93	Gupta et al.			10/15/91		
EXAMINER 			DATE CONSIDERED 1/25/2005				

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U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	5,270,222	12/14/93	Moslehi			12/31/90	
	5,283,141	02/01/94	Yoon et al.			03/05/92	
	5,295,242	03/15/94	Mashruwala et al.			11/02/90	
	5,309,221	05/03/94	Fischer et al.			12/31/91	
	5,329,463	07/12/94	Sierk et al.			01/13/93	
	5,338,630	08/16/94	Yoon et al.			11/18/93	
	5,347,446	09/13/94	Iino et al.			02/10/92	
	5,367,624	11/22/94	Cooper			06/11/93	
	5,375,064	12/20/94	Bollinger			12/02/93	
	5,398,336	03/14/95	Tantry et al.			06/16/93	
	5,402,367	03/28/95	Sullivan et al.			07/19/93	
	5,408,405	04/18/95	Mozumder et al.			09/20/93	
	5,410,473	04/25/95	Kaneko et al.			12/16/92	
	5,420,796	05/30/95	Weling et al.			12/23/93	
	5,427,878	06/27/95	Corliss			05/16/94	
	5,469,361	11/21/95	Moyne			06/06/94	
	5,485,082	01/16/96	Wisspeintner et al.			04/05/90	
	5,490,097	02/06/96	Swenson et al.			08/06/93	
	5,495,417	02/27/96	Fuduka et al.			03/16/93	
	5,497,316	03/05/96	Sierk et al.			04/04/95	
	5,497,381	03/05/96	O'Donoghue et al.			06/01/95	
	5,503,707	04/02/96	Maung et al.			09/22/93	
	5,508,947	04/16/96	Sierk et al.			05/13/94	
	5,511,005	04/23/96	Abbe et al.			02/16/94	
	5,519,605	05/21/96	Cawfield			10/24/94	
5,525,808	06/11/96	Irie et al.			12/20/94		
5,526,293	06/11/96	Mozumder et al.			12/17/93		
5,534,289	07/09/96	Bilder et al.			01/03/95		
5,541,510	07/30/96	Danielson			04/06/95		
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	5,546,312	08/13/96	Mozumder et al.			02/24/94	
	5,553,195	09/03/96	Meijer			09/29/94	
	5,586,039	12/17/96	Hirsch et al.			02/27/95	
	5,599,423	02/04/97	Parker et al.			06/30/95	
	5,602,492	02/11/97	Cresswell et al.			04/28/94	
	5,603,707	02/18/97	Trombetta et al.			11/28/95	
	5,617,023	04/01/97	Skalski			02/02/95	
	5,627,083	05/06/97	Tounai			05/12/95	
	5,629,216	05/13/97	Wijaranakula et al.			02/27/96	
	5,642,296	06/24/97	Saxena			07/29/93	
	5,646,870	07/08/97	Krivokapic et al.			02/13/95	
	5,649,169	07/15/97	Berezin et al.			06/20/95	
	5,654,903	08/05/97	Reitman et al.			11/07/95	
	5,655,951	08/12/97	Meikle et al.			09/29/95	
	5,657,254	08/12/97	Sierk et al.			04/15/96	
	5,661,669	08/26/97	Mozumder et al.			06/07/95	
	5,663,797	09/02/97	Sandhu			05/16/96	
	5,664,987	09/09/97	Renteln			09/04/96	
	5,665,199	09/09/97	Sahota et al.			06/23/95	
	5,666,297	09/09/97	Britt et al.			05/13/94	
5,667,424	09/16/97	Pan			09/25/96		
5,694,325	12/02/97	Fukuda et al.			11/22/95		
5,698,989	12/16/97	Nulman			09/13/96		
5,719,495	02/17/98	Moslehi			06/05/96		
5,719,796	02/17/98	Chen			12/04/95		
5,735,055	04/07/98	Hochbein et al.			04/23/96		
5,740,429	04/14/98	Wang et al.			07/07/95		
EXAMINER 				DATE CONSIDERED 1/25/2005			

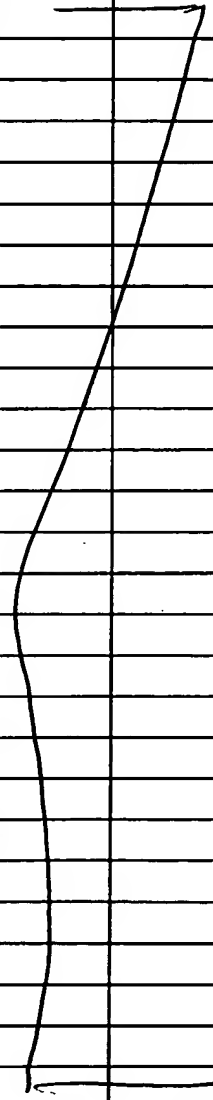

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<i>SPM</i> ↓	5,751,582	05/12/98	Saxena et al.			09/24/96	
	5,754,297	05/19/98	Nulman			04/14/97	
	5,761,064	06/02/98	La et al.			10/06/95	
	5,761,065	06/02/98	Kittler et al.			03/30/95	
	5,764,543	06/09/98	Kennedy			06/16/95	
	5,777,901	07/07/98	Berezin et al.			09/29/95	
	5,787,021	07/28/98	Samaha			12/18/95	
	5,787,269	07/28/98	Hyodo			09/19/95	
	5,808,303	09/15/98	Schlagheck et al.			01/29/97	
	5,812,407	09/22/98	Sato et al.			08/12/97	
	5,823,854	10/20/98	Chen			05/28/96	
	5,825,913	10/20/98	Rostami et al.			07/18/95	
	5,828,778	10/27/98	Hagi et al.			07/12/96	
	5,832,224	11/03/98	Fehskens et al.			06/14/96	
	5,838,595	11/17/98	Sullivan et al.			11/25/96	
	5,844,554	12/01/98	Geller et al.			09/17/96	
	5,857,258	01/12/99	Penzes et al.			05/12/94	
	5,859,964	01/12/99	Wang et al.			10/25/96	
	5,859,975	01/12/99	Brewer et al.			08/09/96	
	5,862,054	01/19/99	Li			02/20/97	
	5,863,807	01/26/99	Jang et al.			03/15/96	
	5,867,389	02/02/99	Hamada et al.			11/26/96	
	5,870,306	02/09/99	Harada			06/13/97	
	5,883,437	03/16/99	Maruyama et al.			12/28/95	
5,889,991	03/30/99	Consolatti et al.			12/06/96		
5,901,313	05/04/99	Wolfe et al.			09/02/97		
5,903,455	05/11/99	Sharpe, Jr. et al.			12/12/96		
5,910,011	06/08/99	Cruse			05/12/97		
5,910,846	06/08/99	Sandhu			08/19/97		
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	5,912,678	06/15/99	Saxena et al.			04/14/97	
	5,916,016	06/29/99	Bothra			10/23/97	
	5,923,553	07/13/99	Yi			10/05/96	
	5,926,690	07/20/99	Toprac et al.			05/28/97	
	5,930,138	07/27/99	Lin et al.			09/10/97	
	5,940,300	08/17/99	Ozaki			05/08/97	
	5,943,237	08/24/99	Van Boxem			10/17/97	
	5,960,185	09/28/99	Nguyen			06/24/96	
	5,960,214	09/28/99	Sharpe, Jr. et al.			12/04/96	
	5,961,369	10/05/99	Bartels et al.			06/04/98	
	5,963,881	10/05/99	Kahn et al.			10/20/97	
	5,978,751	11/02/99	Pence et al.			02/25/97	
	5,982,920	11/09/99	Tobin, Jr. et al.			01/08/97	
	6,002,989	12/14/99	Shiba et al.			04/01/97	
	6,017,771	01/25/00	Yang et al.			04/27/98	
	6,036,349	03/14/00	Gombar			07/26/96	
	6,041,263	03/21/00	Boston et al.			10/01/97	
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	6,077,412	06/20/00	Ting et al.			10/30/98	
	6,078,845	06/20/00	Friedman			11/25/96	
	6,094,688	07/25/00	Mellen-Garnett et al.			03/12/98	
6,097,887	08/01/00	Hardikar et al.			10/27/97		
6,108,092	08/22/00	Sandhu			06/08/99		
6,111,634	08/29/00	Pecen et al.			05/28/97		
6,112,130	08/29/00	Fukuda et al.			10/01/97		
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<i>Alt</i> 	6,127,263	10/03/00	Parikh			07/10/98	
	6,128,016	10/03/00	Coelho et al.			12/20/96	
	6,136,163	10/24/00	Cheung et al.			03/05/99	
	6,141,660	10/31/00	Bach et al.			07/16/98	
	6,148,099	11/14/00	Lee et al.			07/03/97	
	6,148,239	11/14/00	Funk et al.			12/12/97	
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	6,159,075	12/12/00	Zhang			10/13/99	
	6,159,644	12/12/00	Satoh et al.			03/06/96	
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	6,248,602 B1	06/19/01	Bode et al.			11/01/99	
	6,249,712 B1	06/19/01	Boiquaye			09/25/96	
	6,252,412 B1	06/26/01	Talbot et al.			01/08/99	
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	6,263,255 B1	07/17/01	Tan et al.			05/18/98	
	6,271,670 B1	08/07/01	Caffey			02/08/99	
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	6,298,274 B1	10/02/01	Inoue			09/01/99	
	6,298,470 B1	10/02/01	Breiner et al.			04/15/99	
	6,303,395 B1	10/16/01	Nulman			06/01/99	
	6,304,999 B1	10/16/01	Toprac et al.			10/23/00	
	6,307,628 B1	10/23/01	Lu et al.			08/18/00	
	↓ <i>ABM</i>	6,314,379 B1	11/06/01	Hu et al.			12/04/97
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
<i>ARM</i> ↓	2001/0039462 A1	11/08/01	Mendez et al.			04/02/01	
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	6,320,655 B1	11/20/01	Matsushita et al.			03/15/00	
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	6,334,807 B1	01/01/02	Lebel et al.			04/30/99	
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				APPLICANT Deenesh PADHI et al.			
				FILING DATE March 30, 2004		GROUP 9823	
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EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
abm	2002/0070126 A1	06/13/02	Sato et al.			09/19/01	
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EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB- CLASS	
QBM	09/363,966	07/29/99	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
QBM	09/469,227	12/22/99	Somekh et al.	Multi-Tool Control System, Method and Medium			
QBM	09/619,044	07/19/00	Yuan	System and Method of Exporting or Importing Object Data in a Manufacturing Execution System			
QBM	09/637,620	08/11/00	Chi et al.	Generic Interface Builder			
QBM	09/656,031	09/06/00	Chi et al.	Dispatching Component for Associating Manufacturing Facility Service Requestors with Service Providers			
QBM	09/655,542	09/06/00	Yuan	System, Method and Medium for Defining Palettes to Transform an Application Program Interface for a Service			
QBM	09/725,908	11/30/00	Chi et al.	Dynamic Subject Information Generation in Message Services of Distributed Object Systems			
QBM	09/800,980	03/08/01	Hawkins et al.	Dynamic and Extensible Task Guide			
QBM	09/811,667	03/20/01	Yuan et al.	Fault Tolerant and Automated Computer Software Workflow			
QBM	09/927,444	08/13/01	Ward et al.	Dynamic Control of Wafer Processing Paths in Semiconductor Manufacturing Processes			
QBM	09/928,473	08/14/01	Koh	Tool Services Layer for Providing Tool Service Functions in Conjunction with Tool Functions			
QBM	09/928,474	08/14/01	Krishnamurthy et al.	Experiment Management System, Method and Medium			
QBM	09/943,383	08/31/01	Shanmugasundram et al.	In Situ Sensor Based Control of Semiconductor Processing Procedure			
QBM	09/943,955	08/31/01	Shanmugasundram et al.	Feedback Control of a Chemical Mechanical Polishing Device Providing Manipulation of Removal Rate Profiles			
QBM	09/998,372	11/30/01	Paik	Control of Chemical Mechanical Polishing Pad Conditioner Directional Velocity to Improve Pad Life			
QBM	09/998,384	11/30/01	Paik	Feedforward and Feedback Control for Conditioning of Chemical Mechanical Polishing Pad			
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EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB- CLASS	
ABM	10/084,092	02/28/02	Arackaparambil et al.	Computer Integrated Manufacturing Techniques			
ABM	10/100,184	03/19/02	Al-Bayati et al.	Method, System and Medium for Controlling Semiconductor Wafer Processes Using Critical Dimension Measurements			
ABM	10/135,405	05/01/02	Reiss et al.	Integration of Fault Detection with Run-to-Run Control			
ABM	10/135,451	05/01/02	Shanmugasundram et al.	Dynamic Metrology Schemes and Sampling Schemes for Advanced Process Control in Semiconductor Processing			
ABM	10/172,977	06/18/02	Shanmugasundram et al.	Method, System and Medium for Process Control for the Matching of Tools, Chambers and/or Other Semiconductor-Related Entities			
ABM	10/173,108	06/18/02	Shanmugasundram et al.	Integrating Tool, Module, and Fab Level Control			
ABM	10/174,370	06/18/02	Shanmugasundram et al.	Feedback Control of Plasma-Enhanced Chemical Vapor Deposition Processes			
ABM	10/174,377	06/18/02	Schwarm et al.	Feedback Control of Sub-Atmospheric Chemical Vapor Deposition Processes			
ABM	10/377,654	03/04/03	Kokotov et al.	Method, System and Medium for Controlling Manufacturing Process Using Adaptive Models Based on Empirical Data			
ABM	10/393,531	03/21/03	Shanmugasundram et al.	Copper Wiring Module Control			
ABM	10/632,107	08/01/03	Schwarm et al.	Method, System, and Medium for Handling Misrepresentative Metrology Data Within an Advanced Process Control System			
ABM	10/665,165	09/18/03	Paik	Feedback Control of a Chemical Mechanical Polishing Process for Multi-Layered Films			
ABM	10/712,273	11/14/03	Kokotov	Method, System and Medium for Controlling Manufacture Process Having Multivariate Input Parameters			
ABM	10/759,108	01/20/04	Schwarm	Automated Design and Execution of Experiments with Integrated Model Creation for Semiconductor Manufacturing Tools			
ABM	10/765,921	01/29/04	Schwarm	System, Method, and Medium for Monitoring Performance of an Advanced Process Control System			
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U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT APP. NO.	FILING DATE	NAME	TITLE	CLASS	SUB- CLASS	
AM	10/809,906	03/26/04	Surana et al.	A Technique for Process-Qualifying a Semiconductor Manufacturing Tool Using Metrology Data	—	—	
AM	10/809,908	03/26/04	Yang et al.	Improved Control of Metal Resistance in Semiconductor Products via Integrated Metrology	—	—	
EXAMINER <i>A. Mahajan</i>				DATE CONSIDERED 1/25/2005			


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FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
<i>ABM</i>	61-66104	04/04/86	Japan			X	
<i>ABM</i>	61-171147	08/01/86	Japan			X	
<i>ABM</i>	01-283934	11/15/89	Japan			X	
<i>ABM</i>	0 397 924 A1	11/22/90	Europe			X	
<i>ABM</i>	2,050,247	08/29/91	Canada			X	
<i>ABM</i>	2,165,847	08/29/91	Canada			X	
<i>ABM</i>	2,194,855	08/29/91	Canada			X	
<i>ABM</i>	3-202710	09/04/91	Japan			X	
<i>ABM</i>	05-151231	06/18/93	Japan			X	
<i>ABM</i>	05-216896	08/27/93	Japan			X	
<i>ABM</i>	05-266029	10/15/93	Japan			X	
<i>ABM</i>	06-110894	04/22/94	Japan			X	
<i>ABM</i>	06-176994	06/24/94	Japan			X	
<i>ABM</i>	06-184434	07/05/94	Japan			X	
<i>ABM</i>	06-252236	09/09/94	Japan			X	
<i>ABM</i>	06-260380	09/16/94	Japan			X	
<i>ABM</i>	EP 0 621 522 A2	10/26/94	Europe			X	
<i>ABM</i>	WO 95/34866	12/21/95	WO			X	
<i>ABM</i>	08-50161	02/20/96	Japan			X	
<i>ABM</i>	08-149583	06/07/96	Japan			X	
<i>ABM</i>	08-304023	11/22/96	Japan			X	
<i>ABM</i>	EP 0 747 795 A2	12/11/96	Europe			X	
<i>ABM</i>	09-34535	02/07/97	Japan			X	
<i>ABM</i>	WO 98/05066	02/05/98	WO			X	
<i>ABM</i>	10-34522	02/10/98	Japan			X	
<i>ABM</i>	10-173029	06/26/98	Japan			X	
EXAMINER <i>ABMahan</i>				DATE CONSIDERED 1/25/2005			


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EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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	EP 0 869 652 A2	10/07/98	Europe			X	
	WO 98/45090	10/15/98	WO			X	
	EP 0 877 308 A2	11/11/98	Europe			X	
	EP 0 881 040 A2	12/02/98	Europe			X	
	EP 0 895 145 A1	02/03/99	Europe			X	
	WO 99/09371	02/25/99	WO			X	
	11-67853	03/09/99	Japan			X	
	EP 0 910 123 A1	04/21/99	Europe			X	
	11-126816	05/11/99	Japan			X	
	11-135601	05/21/99	Japan			X	
	WO 99/25520	05/27/99	WO			X	
	EP 0 932 194 A1	07/28/99	Europe			X	
	WO 99/59200	11/18/99	WO			X	
	WO 00/00874	01/06/00	WO			X	
	WO 00/05759	02/03/00	WO			X	
	WO 00/35063	06/15/00	WO			X	
	2000-183001	06/30/00	Japan			X	
	WO 00/54325	09/14/00	WO			X	
	GB 2 347 885 A	09/20/00	United Kingdom			X	
	WO 00/79355 A1	12/28/00	WO			X	
EP 1 066 925 A2	01/10/01	Europe			X		
EP 1 067 757 A1	01/10/01	Europe			X		
EP 1 071 128 A2	01/24/01	Europe			X		
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WO 01/15865 A1	03/08/01	WO			X		
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ABM	2001-76982	03/23/01	Japan			X	
	WO 01/25865 A1	04/12/01	WO			X	
	EP 1 092 505 A2	04/18/01	Europe			X	
	WO 01/33277 A1	05/10/01	WO			X	
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	434103	05/16/01	Taiwan			X	
	436383B	05/28/01	Taiwan			X	
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	WO 01/52319 A1	07/19/01	WO			X	
	WO 01/57823 A2	08/09/01	WO			X	
	455938B	09/21/01	Taiwan			X	
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	2001-284299	10/12/01	Japan			X	
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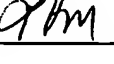


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IBM	Lin, Kuang-Kuo and Costas J. Spanos. November 1990. "Statistical Equipment Modeling for VLSI Manufacturing: An Application for LPCVD." <i>IEEE Transactions on Semiconductor Manufacturing</i> , v. 3, n. 4, pp. 216-229.		
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<i>ABM</i>	Matsuyama, Akira and Jessi Niou. 1993. "A State-of-the-Art Automation System of an ASIC Wafer Fab in Japan." <i>IEEE/SEMI International Semiconductor Manufacturing Science Symposium</i> , pp. 42-47.		
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INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 008063 USA MTCG/PINTGR		SERIAL NO. 10/812,480	
				APPLICANT Deenesh PADHI et al.			
				FILING DATE March 30, 2004		GROUP 2823	
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				APPLICANT Deenesh PADHI et al.			
				FILING DATE March 30, 2004		GROUP 2812 2823	
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(PTO-1449)

ATTY. DOCKET NO.
008063 USA
MTCG/PINTGR

SERIAL NO.
10/812,480

APPLICANT
Deenesh PADHI et al.

FILING DATE
March 30, 2004

GROUP
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EXAMINER


J. H. Malvern

DATE CONSIDERED

1/25/2005

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		<p>APPLICANT Deenesh PADHI et al.</p>	
		<p>FILING DATE March 30, 2004</p>	<p>GROUP 2812-2823</p>
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
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<p>EXAMINER</p> <p><i>JBM</i></p>	<p>DATE CONSIDERED</p> <p>1/25/2005</p>		

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